CS6460 project catalog

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Version: 1.0b
Date: 7/23/2020

This document outlines the content of jvisser7-project.zip and instructions for building and using NITS.

The latest version of this document is online at https://docs.google.com/document/d/1ezFUvIWqnam3MUihwczZSV5n59_TXDhs_82bw7PY03s.

Running NITS.

- The executable has been written in Go and can be run on compatible platforms
    - Binaries for Linux and MacOS have been provided:
        - nits-linux
        - nits-darwin
- Run the binary per appropriate way from the command prompt, e.g::
    - E.g: ./nits-linux
- In order to run correctly, NITS needs the “trainhmm” binary (part of standard-bkt; https://iedms.github.io/standard-bkt/).
    - Binaries have been provided for Linux and MacOS.
    - The binary is found in either the following locations:
        - The same directory as the “nits” binary, with the “-<os>” suffix, or
        - $HOME/standard-bkt/trainhmm
    - If you run NITS as indicated above it should find the trainhmm binary.
    - The trainhmm-darwin binary has the following shared library dependencies:
        - /usr/local/opt/gcc/lib/gcc/9/libstdc++.6.dylib (compatibility version 7.0.0, current version 7.28.0)
        - /usr/local/opt/gcc/lib/gcc/9/libgomp.1.dylib (compatibility version 2.0.0, current version 2.0.0)
        - /usr/lib/libSystem.B.dylib (compatibility version 1.0.0, current version 1281.100.1)
        - /usr/local/lib/gcc/9/libgcc_s.1.dylib (compatibility version 1.0.0, current version 1.0.0)
        - These can be installed using “brew install g++-9”

            - See https://brew.sh/ for the HomeBrew software installation system.
    - The trainhmm-linux binary should have only dependencies that are available on a standard Linux OS distribution.

Using NITS

- NITS has a very simple text based UI. It should speak for itself.
- ? gives help
- There is a debug command that can be used to get information about the internals of nits.
    - The dot command requires the presence of Graphviz on the system.
        - If it isn't there, a valid dot file will still be generated, but turning it into a PDF will fail.
    - If GraphViz is installed a PDF will be generated called "/tmp/aap.pdf".
    - If you are running on a Mac, the PDF will be displayed using the Preview application.
- To handpick a question:
    - debug questions
        - To show the question list.
    - debug next <shortname>
        - To select the next question.
    - abandon
        - To abandon the current question and move to the next one.
- Upon exit NITS saves the user state in $HOME/.nits_data.

NITS source code

- The source code is in "main.go" and the Go files in the content/ and nits/ directories.

Compiling NITS

- If you want to compile NITS yourself:
    - Building NITS requires Go 1.14 or higher, which can be obtained on http://golang.org.
    - NITS uses a readline library, which can be obtained as follows:
        - go get github.com/chzyer/readline
    - Once this is in place:
        - go build main.go
        - The resulting binary will be called "main"
    - Or:
        - go run main.go

- To build and run without saving the built binary.